REMARKS

Claims 1 and 3-17 are pending in this application. Support for new claims 10-17 is found at pages 5, 6 and 8 of the specification, as well as in Examples 3, 7 and 8. It is submitted that all of the presently pending claims are fully supported by the disclosure of the present application and that all of the above-noted amendments should be entered of record.

Allowable Claim 3

Claim 3 has been indicated as being in allowable form and is merely objected to as depending upon a rejected base claim. It is submitted for the reasons stated below that claim 1, as well as all of the other dependent claims, are allowable over the prior art, such that all of the present claims should be placed into condition for allowance.

Issues under 35 U.S.C. § 102(b) and 103(a)

Claims 1, 2, 4, 5, 8 and 9 have been rejected under 35 U.S.C. § 102(b) as being anticipated and unpatentable over Mine '463 (EP 0 653 463).

Claims 1, 2, 4, 5, 8 and 9 have been rejected under 35 U.S.C. § 102(b) as being anticipated and unpatentable over Okami '075 (USP 5,384,075).

Claims 1, 7, 8 and 9 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over La Scola '205 (USP 4,777,205).

Claim 6 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over La Scola '205 in view of Fujiki '896 (USP 5,405,896).

It is noted that claim 2 has been canceled. The above-noted rejections are traversed for the following reasons.

Present Invention

The present invention is directed to an electrically conductive silicone rubber composition which cures into a part having a stable high conductivity and improved self adhesiveness.

The inventors have found that by blending (A) an organopolysiloxane having aliphatic unsaturated groups with (B) finely divided silica, (C) an electrically conductive powder in the form of inorganic filler or resin particles/nickel/gold layer construction, and (D) an adhesive aid, an electrically conductive silicone rubber composition is obtained which cures into a part having a low volumetric resistivity, a stable high conductivity and improved self adhesiveness.

The conductive powder of component (C) is incorporated to confer the silicone rubber composition with electrical conductivity. It has a construction as defined in the claims. The inventive composition obtained by blending components (A) to (E)

exhibits excellent properties including low volumetric resistivity and stable electrical resistance as shown by Examples 3, 7 and 8 in Table 1 of the present specification. The composition can be cured into a silicone rubber useful for electrically conductive parts and electrical contacts in electrical equipment.

Distinctions between Present Invention and the Mine '463 and Okami '075 Documents

Mine '463 discloses silicone rubber composition which comprises (A) an organopolysiloxane containing at least two alkenyl radicals per molecule, (B) an organohydrogensiloxane containing at least two silicon-bonded hydrogen atoms per molecule, (C) a silver powder containing ammoniuma ion less than 10 ppm and sulfate ion less than 5 ppm, and (D) a platinum group catalyst. The organhydrogensiloxane of component (B) may be used as an adhesion promoting additive when it has at least two silicon atom-bonded hydrogen atoms and at least one silicon atom-bonded alkoxy group per molecule. Otherwise, an adhesion promoting additive as component (E) which contains at least one silicon atom-bonded alkoxy group per molecule can be further added. The composition may also contain an inorganic filler such as fumed silica.

Okami '075 discloses an addition curable organopolysiloxane composition which comprises (A) an organopolysiloxane having at least two alkenyl groups in its molecule, (B) an

organohydrogenpolysiloxane having at least two silicon-bonded hydrogen atoms in its molecule, (C) a platinum group metal catalyst, (D) organosilicon compound as an adhesion-imparting agent which has at least one silicon-bonded hydrogen atom and at least one epoxy group-containing organic group or alkoxy groups, and (E) an electrically conductive filler including metal powders such as nickel powder, silver powder. The composition further contains a filler such as fumed silica, precipitated silica.

As described above, the present invention employs the use of an electrically conductive powder having a construction comprising an inorganic filler or resin particle covered with a nickel layer which in turn is covered with a gold layer. Mine '463 and Okami '075 both fail to disclose or suggest this type of powder construction. Although Mine '463 and Okami '075 disclose the use of silver powder as an electrically conductive filler, an inorganic filler or resin particle having a gold layer on a metallic nickel layer is not disclosed or suggested.

In view of the above, it is submitted that significant patentable distinctions exist between the present invention and both the Mine '463 and Okami '075 documents, such that the above-noted rejections based on these documents should be withdrawn.

Distinctions between Present Invention and the La Scola '205 and Fujiki '896 Documents

La Scola '205 discloses an electrically conductive organopolysiloxane composition which comprises (1) an organopolysiloxane capable of being crosslinked, (2) a cross-linking agent capable of reacting with the crosslinkable organopolysilozane, (3) silver coated mica particles, and (4) an electrically conductive carbon black. The composition may further contain reinforcing fillers such as precipitated silicon dioxide and semi- or non-reinforcing fillers such as nickel powder, organic resins. Other additives including an adhesion promoter may be incorporated to the composition.

Although La Scola '205 discloses the use of silver coated mica particles, La Scola '205 fails to disclose the use of a powder having a construction comprising an inorganic filler or resin particle covered with a nickel layer which in turn is covered with a gold layer as in the present invention. La Scola '205 also fails to disclose or suggest the adhesive properties obtained by the present invention.

Fujiki '896 discloses a silicone rubber composition of an addition reaction curing type which comprises (a) an organopolysiloxane containing an alkenyl group, (b) an organohydrogenpolysiloxane having at least two hydrogen atoms directly attached to a silicon atom in a molecule, (c) an addition reaction catalyst, and (d) an adhesive agent having a specific structure. Finely divided silica may further be added to the

composition. Fujiki '896 discusses that the composition adheres to organic resins with minimum adhesion to metals.

Fujiki '896 fails to disclose the use of the conductive particles of the invention. Fujiki '896 also fails to disclose or suggest low volumetric resistivity or stable electrical resistance, as well as adhesion to the various substrates including resins and metals, which properties are achieved by blending the conductive particle and the adhesive agent according to the invention.

In view of the above, it is submitted that significant patentable distinctions exist between the present invention and both the La Scola '205 and Fujiki '896 documents such that the above-noted rejections should be withdrawn which are based on these documents.

It is submitted that all of the presently pending claims define patentable subject matter such that the present application should now be placed into condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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0171-0773P

Attachment: Version with Markings to Show Changes Made

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claim 2 has been canceled.

The claims have been amended as follows:

1. (Amended) An electrically conductive silicone rubber composition having improved adhesion, comprising

(A) 100 parts by weight of an organopolysiloxane having at least two aliphatic unsaturated groups in a molecule,

(B) 0.1 to 100 parts by weight of finely divided silica,

(C) 30 to 700 parts by weight of ~~a metal powder or~~ an electrically conductive ~~metal plated~~ powder having a construction comprising an inorganic filler or a resin particle covered with a nickel layer which in turn is covered with a gold layer,

(D) 0.1 to 20 parts by weight of an adhesive aid, and

(E) a curing agent in an amount sufficient to cure the organopolysiloxane.

Claims 10-17 have been added.